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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/525,176	03/14/2000	Savvas Vasileiadis		7655

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EXAMINER	
VANOY, TIMOTHY C	
ART UNIT	**PAPER NUMBER**
1754	14

DATE MAILED: 10/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

TP

Office Action Summary

Application No.	Applicant(s)
09/525,176	VASILEIADIS et al.
Examiner	**Group Art Unit**
VANOY	1754

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ONE MONTH(S) OR THIRTY DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

☒ Responsive to ~~communication(s) filed on~~ THE AMENDMENT MAILED ON MAY 28, 2002.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 89 - 133 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☐ Claim(s) _____ is/are rejected.

☐ Claim(s) _____ is/are objected to.

☒ Claim(s) 89 - 133 are subject to restriction or election requirement

Application Papers

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)–(d)

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)–(d).

☐ All ☐ Some* ☐ None of the:

☐ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. _____.

☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____.

Attachment(s)

☐ Information Disclosure Statement(s), PTO–1449, Paper No(s). _____

☐ Interview Summary, PTO–413

☐ Notice of Reference(s) Cited, PTO–892

☐ Notice of Informal Patent Application, PTO–152

☐ Notice of Draftsperson's Patent Drawing Review, PTO–948

☐ Other _____

Office Action Summary

Election/Restrictions

Restriction is required under 35 U.S.C. 121:

The Amendment mailed on May 28, 2002 (paper no. 12) has been received and the claims presented therein have been entered and re-numbered under 37CFR 1.126 as new claims 89-133 (respectively). The Applicants' invention appears to be a process for producing hydrogen via chemical reaction in the inner-most region of a tri-tubular reactor; allowing the reaction products to permeate into the middle region and selectively permeating the hydrogen into the outermost region, where it may be used for other purposes. The limitations of (at least) Applicants' claim 89 (claim 1 in the Amendment mailed on May 28, 2002) are drawn to a variety of different processes for producing hydrogen and a variety of different processes for using the hydrogen.

The Applicants are required to elect a single process from either: (1) the various processes for producing the hydrogen, or (2) the various processes for using the hydrogen.

If a process for producing the hydrogen is elected, then the Applicants must further elect between one of the three following claimed processes for producing hydrogen:

I The hydrocarbon and alcohol reformation reactions to produce hydrogen, classified in class 423, subclass 652+;

II The water-gas shift reaction to produce hydrogen, classified in class 423, subclass 655+, or

III The dehydrogenation of paraffins to produce hydrogen, classified in class 423, subclass 650+.

If a process for using the hydrogen is elected, then the Applicants must further elect either: (1) a process for using the hydrogen for a hydrogenation reaction, or (2) a process for using the hydrogen as a fuel (classified in various classes and subclasses, according to which hydrogenation reaction is elected or which source is used to burn the hydrogen fuel).

If a process for using the hydrogen for a hydrogenation reaction is elected, then the Applicants are required to further elect one of the nine claimed hydrogenation processes set forth in (at least) Applicants' claim 90 (claim 2 presented in the Amendment mailed on May 28, 2002):

IV A process for hydrogenating an unsaturated hydrocarbon into a saturated hydrocarbon, classified in class 585, subclass 250+;

V A process for producing methanol via the hydrogenation of carbon monoxide, classified in class 518, subclass 702+;

VI A process for producing gasoline range hydrocarbons via the hydrogenation of carbon monoxide, classified in class 208, subclass 16+;

VII A process for producing ammonia via the hydrogenation of nitrogen, classified in class 423, subclass 352+;

VIII A process for producing paraffins and olefins via the hydrocracking of a higher paraffin, classified in class 585, subclass 483+;

IX A process for producing non-aromatic hydrocarbons via the hydrogenation of aromatic hydrocarbons, classified in class 585, subclass 266+;

X A process for producing alcohols via the hydrogenation of an aldehyde or a ketone, classified in class 568, subclass 700+;

XI A process for producing a non-halogen component via the hydrogenolysis of an alkyl or aryl halide, classified in class 585, subclass 899+, or

XII A process for producing amines via the reduction of a nitroalkane or an aromatic nitro compound, classified in class 564. subclass 1+, or (alternatively, if one of the above hydrogenation reactions is not elected)

XIII A process for using hydrogen as a fuel (classified in various classes and sub-classes depending on what it is that burns the fuel).

This election should be accompanied with an amendment which replaces and/or amends all of the claims so that the pending claims are drawn only to that elected process for making hydrogen or that elected process for using the hydrogen. The new claims, which reflect the Applicants' election, should not claim any of the other non-elected processes for making hydrogen, nor should the new claims claim any of the non-elected processes for using the hydrogen. Note that claim limitations drawn to using hydrogen do not materially further limit a claimed method for making hydrogen.

The inventions are distinct, each from the other, because the inventions set forth in the thirteen (XIII) groups set forth above are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the

combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because each of the inventions set forth in a single group selected from groups I through XIII above is capable of supporting its own patent without requiring the inclusion of an additional non-elected invention. The subcombination has separate utility *such as* the separate utilities for each of the group of claims I through XIII set forth above and in the pending claims. *For example*, the utility of the invention of group XII is the production of amines, which is distinct from the utility of the invention of group VI, which is the production of gasoline range hydrocarbons. These two processes are capable of supporting their own patents.

Because these inventions are distinct for the reasons given above and the claims corresponding to the inventions set forth in groups I through XIII have acquired a separate status in the art as shown by their different classification, the claims corresponding to the inventions set forth in groups I through XIII have acquired a separate status in the art because of their recognized divergent subject matter, and the search required for the invention of any elected group of claims is not required for the inventions of any of the other non-elected groups of claims, restriction for examination purposes as indicated is proper.

The Applicants are advised that in order for their reply to this requirement to be complete, it must include an election of the invention to be examined, even though the requirement may be traversed (37 CFR 1.143). The Applicants' reply should also be accompanied with an amendment that limits the pending claims only to that invention which is elected.

The Applicants are reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy C. Vanoy whose telephone number is 703-308-2540. The examiner can normally be reached on 8 hr. days.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Timothy Vanoy/tv
October 1, 2002

Timothy Vanoy
Patent Examiner

Art Unit 1754